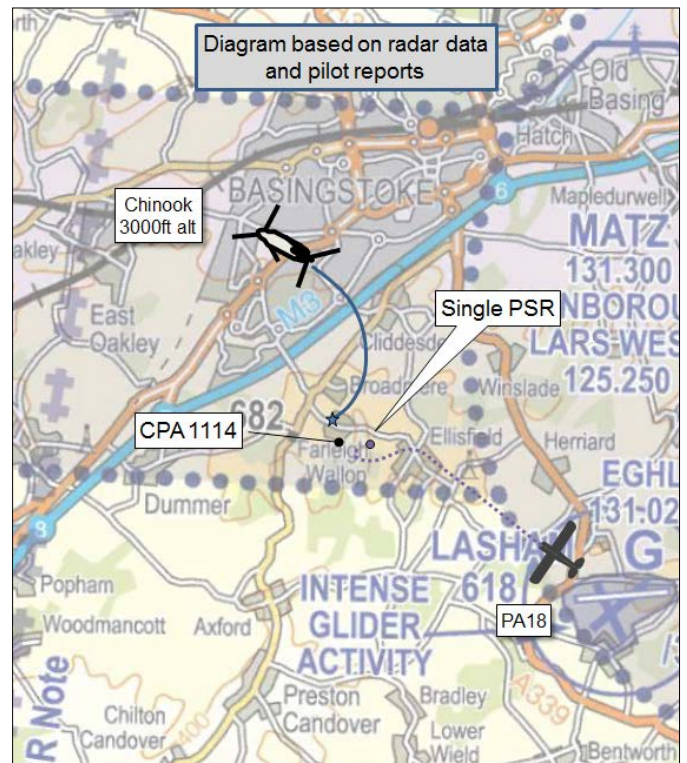


AIRPROX REPORT No 2016223

Date: 19 Oct 2016 Time: 1114Z Position: 5112N 00105W Location: Odiham

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	Chinook	PA18
Operator	HQ JHC	Civ Club
Airspace	Odiham MATZ	Odiham MATZ
Class	G	G
Rules	IFR	VFR
Service	Traffic	None
Provider	Odiham	
Altitude/FL	3000ft	NK
Transponder	A, C, S	Not fitted
Reported		
Colours	Green	Black, Yellow
Lighting	Nav, HISLs	Strobes, Landing Beacon
Conditions	IMC	VMC
Visibility	40km	20km
Altitude/FL	3000ft	2000ft
Altimeter	QNH (1022hPa)	NK (1000hPa)
Heading	220°	SE
Speed	NK	70kt
ACAS/TAS	TAS	FLARM
Alert	TA	None
Separation		
Reported	0ft V/300m H	200ft V/500m H
Recorded	0.1nm	



THE CHINOOK PILOT reports that he was conducting a hold at Odiham for a COPTER TAC RW27 approach. He was receiving a Traffic Service and was following the published holding procedure at the initial approach fix (IAF) at the minimum hold altitude of 3000ft. He was intermittent IMC, with broken cloud at 2500ft. On turning outbound from the IAF, ATC gave Traffic Information, advising traffic '12 o'clock, ¼ of a mile, no height information'. The Captain checked the TAS and there were no indications; given that the crew were intermittent IMC, it was assumed that the contact was a glider operating out of Lasham, below the cloud. During the turn, the aircraft broke cloud and the crew were surprised to be faced with two aircraft at same altitude between BKN CU clouds, on a reciprocal heading. The Chinook crew immediately broke right, and the crew noticed that the tow aircraft also broke right. ATC were informed and the sortie continued.

He assessed the risk of collision as 'High'.

THE PA18 PILOT reports that he had been towing a glider from Lasham, taking it to a position upwind of the airfield to the north-west of Lasham. At a position approx 1nm west of Ellisfield he was towing in a west-south-westerly heading towards a cloud when the glider released. The cloud was on his port side so he commenced a tight descending turn to starboard. At the time of the descending turn, a helicopter came into view, climbing and turning away from him in a westerly direction.

He assessed the risk of collision as 'Low'.

THE ODIHAM APPROACH CONTROLLER reports that he was the ATCO i/c and Approach controller. He was providing the Chinook with a Traffic Service whilst it conducted a COPTAC Approach when he observed a primary contact departing from Lasham, initially tracking NW, then turning onto a more northerly heading. He gave Traffic Information to the Chinook pilot when it was

3nm away. He hadn't called it earlier, because he had provided Traffic Information on 3 other contacts and he was mindful of not overloading the pilot, who he knew was on a training flight. The Chinook pilot took up the hold and started his turn onto a reciprocal heading of west, which the controller believed would take him inside the primary contact. This was called again at 1nm and then a third time at ¼ nm. The two contacts merged and once they had separated again the Chinook pilot reported that he would be filing an Airprox and asked that the controller record the position. The pilot at first said he thought it was two vintage aircraft that he saw, but a couple of minutes later he reported that after discussion with the crew, they believed it to be a tug and glider. This corresponded with the radar returns, because after the incident the primary contact split into two contacts, both heading in the direction of Lasham.

He perceived the severity of the incident as 'Low'.

Factual Background

The weather at Odiham was recorded as follows:

METAR EGV0 191050Z 30011KT 9999 BKN020 12/07 Q1022 WHT BECMG BKN025 BLU=

Portions of the tape transcripts between Odiham Approach and Chinook are below:

From	To	Speech Transcription	Time
Odiham Approach	Chinook	{Chinook c/s} traffic south east 3 miles tracking north no height information believed to be a glider out of Lasham	11:13:30
Chinook	Odiham Approach	Er {Chinook c/s} not sighted	11:13:37
Chinook	Odiham Approach	{Chinook c/s} initial approach fix taking up the hold 3000 ft 1022	11:13:44
Odiham Approach	Chinook	{Chinook c/s} roger, report approaching the initial approach fix for the procedure	11:13:46
Chinook	Odiham Approach	Er Wilco {Chinook c/s}	11:13:54
Odiham Approach	Chinook	{Chinook c/s} previously called contact South 1 mile manoeuvring no height information possible glider	11:14:08
Chinook	Odiham Approach	{Chinook c/s} is not sighted	11:14:19
Odiham Approach	Chinook	{Chinook c/s} now South half a mile correction quarter of a mile manoeuvring no height information	11:14:23
Chinook	Odiham Approach	{Chinook c/s} yep those er 2 contacts er vintage aircraft erm operating in and around the cloud handling at our safe altitude	11:14:45
Odiham Approach	Chinook	{Chinook c/s} roger understood	11:14:59
Chinook	Odiham Approach	{Chinook c/s} if you can just from your er screen log our position I'll give er you a call when we land but be will be putting in an air air prox for that	11:15:13
Odiham Approach	Chinook	{Chinook c/s}	12:15:24
Chinook	Odiham Approach	{Chinook c/s} for your information in consultation with my crew er the 2 aircraft it was a er towing aircraft and a glider so I suspect it was out of Lasham as it was a towing aircraft and a glider but er they are operating in and around erm fairly intermittent broken cloud	12:16:52
Odiham Approach	Chinook	{Chinook c/s} roger I have logged the position, position and the time and I will have them when you ring	12:17:11
Chinook	Odiham Approach	{Chinook c/s} many thanks	12:17:17

Analysis and Investigation

Military ATM

Figures 1-4 depict the position of the Chinook and the conflicting aircraft at the times when the Odiham Approach controller provided Traffic Information, as well as other relevant points. The replay picture was generated using the Gatwick 10 radar feed. [UKAB note: not the radar that the Odiham Controller was using]

At 11:13:30 (Figure 1), the Odiham Approach controller passed Traffic Information to the Chinook pilot on traffic south east, range 3nm, tracking north, no height information, believed to be a glider out of Lasham. No traffic was visible on the radar replay provided by the RAC.

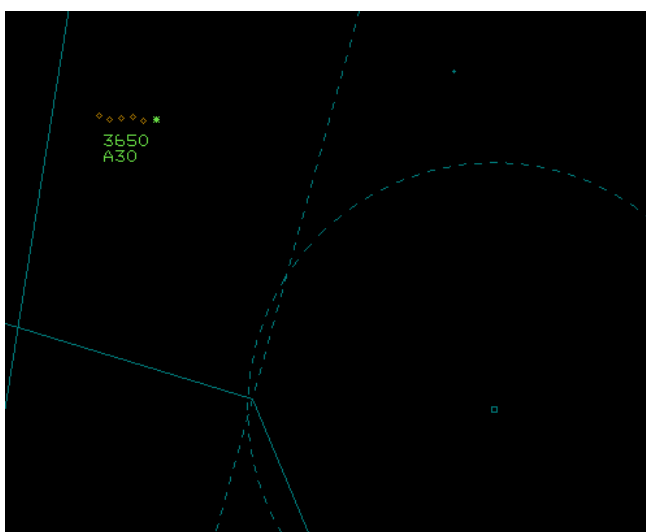


Figure 1: Geometry at 11:13:30
(Chinook SSR 3650)

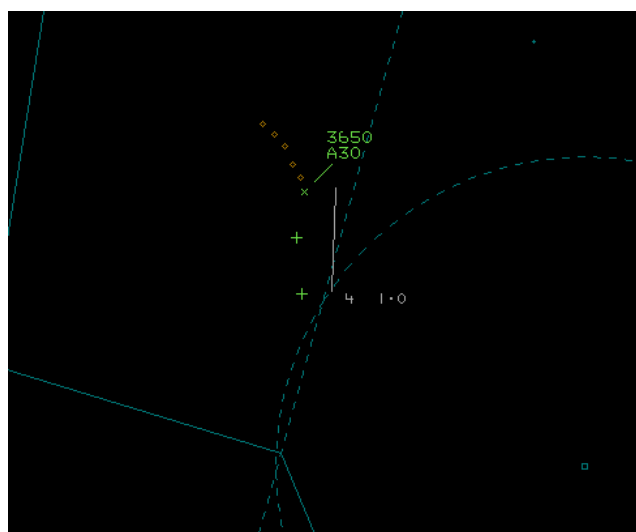


Figure 2: Geometry at 11:14:20

At 11:14:08, the Odiham Approach controller provided updated Traffic Information on traffic now south, range 1nm, manoeuvring, no height information, possibly a glider. Chinook replied that he was not visual with the traffic. No traffic was visible on the radar replay provided by the RAC.

At 11:14:20 (Figure 2), two primary contacts began to appear in the area where the Odiham Approach controller had previously called traffic.

At 11:14:23 (Figure 3), the Odiham Approach controller updated the Traffic Information and Chinook described being visual with two vintage aircraft operating in and around the cloud. The description was subsequently changed to be a towing aircraft and glider.

At 11:14:37 (Figure 4), the aircraft passed each other with a CPA of 0.1nm.

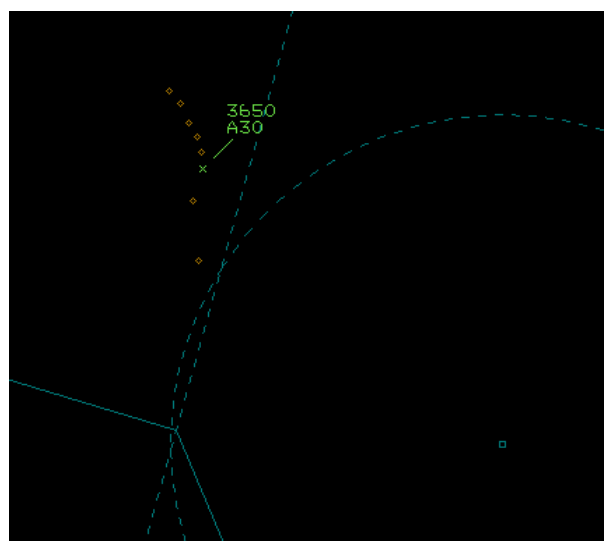


Figure 3: Geometry at 11:14:23

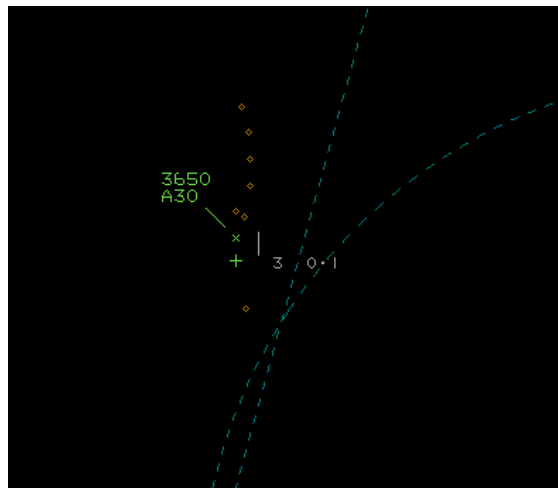


Figure 4: Geometry at 11:14:37 (Chinook SSR 3650; primary contact)

CAP 774 describes that, under a Traffic Service,

The controller shall pass traffic information on relevant traffic, and shall update the traffic information if it continues to constitute a definite hazard, or if requested by the pilot.

Controllers shall aim to pass information on relevant traffic before the conflicting aircraft is within 5 NM, in order to give the pilot sufficient time to meet his collision avoidance responsibilities and to allow for an update in traffic information if considered necessary.

Controller judgement is essential to ensure that traffic information is relevant and timely. Controllers should take account of the aircraft's relative speeds, lateral and vertical closure rates, and track histories.

The Odiham Approach controller had observed a primary contact departing the Lasham ATZ and used his judgement as to when to pass Traffic Information to the Chinook without overloading the pilot, who was conducting Instrument training. The traffic was first called at a range of 3nm, and then updated twice, allowing the pilot to visually acquire the conflicting aircraft. The controller believed that the COPTER TAC hold profile would keep Chinook turning inside of the primary contact. There was no requirement for the controller to provide deconfliction under Traffic Service.

Though the incident occurred during core hours, lunch time manning constraints meant that Odiham ATC was being managed by an ATCO IC, who was required to control, rather than a standalone Supervisor. Despite this reduced capacity, the team had attempted to find out the altitude of the primary contact by selecting the PAR to RW09 (RW27 was in use), in the hope that the conflicting traffic would be depicted in both azimuth and elevation. Unfortunately, the time taken for the equipment to respond meant that the information was not available until after the Airprox had occurred.

UKAB Secretariat

The Chinook and PA18 pilots shared an equal responsibility for collision avoidance and not to operate in such proximity to other aircraft as to create a collision hazard¹. If the incident geometry is considered as head-on or nearly so then both pilots were required to turn to the right². If the incident geometry is considered as converging then, having released the glider, the PA18 pilot was required to give way to the Chinook³.

¹ SERA.3205 Proximity.

² SERA.3210 Right-of-way (c)(1) Approaching head-on.

³ SERA.3210 Right-of-way (c)(2) Converging.

Comments

JHC

Whilst the initial traffic call could be considered late, the Odiham controller had kept the Chinook pilot informed of traffic, calling in a timely fashion. The glider tug could be considered unwise towing in such close proximity to clouds particularly in an area where instrument patterns are regularly flown, even though he was within his rights to do so. As a direct result of this the Chinook pilot was alarmed at the proximity of the tug as he broke cloud and an Airprox was rightly filed. These incidents will continue to occur until glider pilots and associated operators appreciate the risks they run by ignoring the possibility that IFR traffic could be legitimately operating in the same airspace.

BGA

The tug and glider were legitimately entitled to operate where they were VMC on a standard departure track from Lasham. The BGA is concerned that the Lasham operations appear not to be well understood by the Odiham operators, and that they may not appreciate the risks they run by ignoring the possibility that VFR traffic may be operating in the same airspace as they conduct IFR operations in mixed VMC/IMC conditions such as were evident on the day. The BGA will encourage Lasham to ensure that comprehensive engagement is conducted with Odiham such that a fuller understanding is gained by both parties of each other's operations, to include the promulgation of standard tracks and procedures to each other. It is also of concern that when FLARM traffic information is available it is not being passed on in some circumstances.

Summary

An Airprox was reported when a Chinook and a PA18 flew into proximity at 1114 on Wednesday 19th October 2016. The Chinook pilot was operating under IFR in intermittent IMC, and in receipt of a Traffic Service from Odiham Approach. The PA18 pilot had just released his glider and was VFR in VMC not receipt of an ATS.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from the pilots of both aircraft, transcripts of the relevant RT frequencies, radar photographs/video recordings, reports from the air traffic controllers involved and reports from the appropriate ATC and operating authorities.

The Board first looked at the actions of the Chinook pilot. Noting that he was conducting an IF training sortie, the Board could understand that he was probably somewhat task focused on continuing the approach. However, members commented that, having received Traffic Information on the PA18 at 3nm and 1nm, he didn't take any action until the traffic was again called at ¼ nm, albeit that he was already in a right-hand turn when the traffic was called at 1nm. Recognising that the controller had said that the traffic was believed to be a glider, some members thought that this would have influenced the Chinook pilot's mental model to believe that, as a glider, it would not be operating at his altitude in cloud. However, in the event, as he popped out of the cloud he came head-to-head with the PA18 that was operating in a gap between clouds. Although it was accepted that ideally one wouldn't undertake a self-positioned TACAN approach using a Deconfliction Service due to the need to set up the approach autonomously, some members opined that the Chinook pilot could have asked for a Deconfliction Service given that he was in cloud and approaching other traffic, and then returned to the TACAN procedure under a Traffic Service once clear of the traffic.

For his part, members noted that the PA18 pilot was routing out of Lasham (which is within the Odiham MATZ) towing a glider. The Board were informed that there was a Lasham noise avoidance area over Ellisfield, and that the route that the PA18 took was a standard routing to the north-west to avoid this. Some members opined that, although he was entitled to operate freely in the Odiham MATZ outside of its ATZ, (MATZ are only advisory for other than military pilots) as a Lasham pilot he

would have been well aware of its existence; as such, they opined that he would have been much better served in giving Odiham ATC a call on the RT, especially given the cloudy weather conditions. There then followed a lengthy discussion on whether or not Odiham ATC would want every glider operating out of Lasham to call them, but the majority thought that tug flights, being especially unwieldy, certainly merited a call given the prevailing weather. Noting that the PA18 did not have a transponder fitted, the Board opined that this was another barrier that had been rendered ineffective. They commented that having transponders fitted to their tug fleet would give Lasham the option of employing a listening squawk, thus allowing the tugs to operate without calling each time and giving Odiham ATC the option of calling them for information. Furthermore, and noting that the PA18 had FLARM fitted which was not compatible with the Chinook's TAS, the members opined that a transponder on the PA18 would also have given the Chinook pilot information on it through his TAS. Some members wondered why the PA18 pilot had routed towards the Odiham TACAN hold given the poor weather conditions. A member with gliding experience at Lasham opined that the gliding club were probably not aware of the position of the Odiham TACAN hold. Given that Lasham were operating only 4nm or so from Odiham and within their MATZ, most members were nonplussed as to why Lasham would not have this detailed knowledge. A previous SATCO Odiham, now an advisor to the Board, informed members that he had personally made such details available to the club; however, the Board suspected that this corporate knowledge had been lost over the years. This led to the Board recommending that Odiham and Lasham review their agreements and mutual operating procedures.

The Board then looked at the role that ATC had to play. It was quickly agreed that the controller could not have done much more under the circumstances. Although the first Traffic Information was given at 3nm, it was recognised that he had already given Traffic Information on other aircraft and was trying not to overload the pilot during his IRT. That being said, having called the traffic to the pilot, he did update the information on two more occasions; unfortunately, without any concrete knowledge of what the PA18 was doing or its height, he could not have provided any more information. Some members wondered whether the controller could have offered avoiding action to the Chinook pilot, but it was agreed that the controller had met his duty of care requirements given that he did not have specific height information on the PA18. There was also a danger in doing so of blurring the lines between the different types of ATS, which over time would become confusing for pilots; something that the UKAB already sees between Basic Service and Traffic Service, and so this idea was quickly rejected.

Once again a discussion about the employment of FLARM for RAF ATC was raised; this had recently been a common subject of discussion at UKAB meetings. Although trials have taken place at various military units, military members were at pains to reiterate that the unverified FLARM information could never be used for controlling purposes and could not be processed onto radar screens; as such, they opined that it could only have limited use within ATC. Challenging this, some members were keen to suggest that installing a FLARM receiver in the tower would give direct FLARM information, without latency, that would provide real-time situational awareness of gliders and aircraft that were similarly equipped; such information would have been invaluable in the circumstances of this incident. In reply, military ATC members responded that it was not that simple, the equipment still had to be fully tested and validated to ensure that it didn't conflict with any other equipment already in use on military airfields. Somewhat disheartened, the Board noted that at least trials were on-going; all that could be hoped for was that these trials might be concluded at an expeditious pace.

[UKAB Secretariat note: It has subsequently been confirmed that Odiham ATC have a computer in the corner of the ACR that is often utilised to view glider-net and thus receive limited FLARM information, albeit that this information cannot be used for controlling purposes. However, over the lunchtime period Odiham ATC does not operate with a Supervisor due to manning constraints. This Airprox took place at such a time, and therefore, with the controllers all busy, there was no spare personnel available to view the FLARM data (which could only have been used for information anyway).]

In assessing the effectiveness of the barriers associated with this incident, the Board concluded that the key factors had been that:

- **Flight Crew Compliance with ATC Instructions** was **ineffective** because the Chinook crew were given Traffic Information, but didn't act on it.
- **Flight Crew Pre-flight Planning** was only **partially effective** because although the tug and glider pilots knew about the Odiham MATZ, they still chose to operate there in poor weather without calling ATC.
- **Onboard Warning/Collision Avoidance Equipment** was **ineffective** because: the TAS on the Chinook and the FLARM on the tug were not compatible; the tug was not transponder equipped; and neither the Chinook or Odiham ATC were FLARM equipped.
- **See-and-avoid** was only **partially effective** because the Chinook had been in cloud just before the incident.

The Board discussed the cause of the Airprox at some length, with some members opining that by not reacting to the Traffic Information, the Chinook pilot had effectively flown into conflict with the PA18. However, others thought this to be unfair given that he had been led to believe that the contact was a glider which he probably thought would not be operating in the cloud. They also thought that the PA18 pilot had had a part to play in not calling Odiham ATC whilst in the MATZ in poor weather. Reflecting this latter point, in the end the Board agreed that the incident was probably best described as a conflict in Class G Airspace, with a contributory factor that the Chinook pilot had not acted on the Traffic Information provided. Turning to the risk, the members quickly agreed that safety had been much reduced below the norm and that this had been a Category B incident. The Board were concerned that there may be a lack of knowledge or understanding by operators at both units as to the other's operations and they therefore resolved to make a recommendation that HQ JHC undertakes a review of the Odiham and Lasham MOU.

PART C: ASSESSMENT OF CAUSE AND RISK

<u>Cause:</u>	A conflict in Class G airspace.
<u>Contributory Factor:</u>	The Chinook pilot did not act on the Traffic Information provided.
<u>Degree of Risk:</u>	B.
<u>Recommendation:</u>	HQ JHC undertake a review of the Odiham and Lasham MOU.

Barrier Assessment⁴:

Modern safety management processes employ the concept of safety barriers that prevent contributory factors or human errors from developing into accidents. Based on work by EASA, CAA, MAA and UKAB, the following table depicts the barriers associated with preventing mid-air-collisions. The length of each bar represents the barrier's weighting or importance (out of a total of 100%) for the type of airspace in which the Airprox occurred (i.e. Controlled Airspace or Uncontrolled Airspace).⁵ The colour of each bar represents the Board's assessment of the effectiveness of the associated barrier in this incident (either Fully Effective, Partially Effective, Ineffective, or Unassessable/Absent). The chart thus illustrates which barriers were effective and how important they were in contributing to collision avoidance in this incident.

⁴ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#)

⁵ Barrier weighting is subjective and is based on the judgement of a subject matter expert panel of aviators and air traffic controllers who conducted a workshop for the UKAB and CAA on barrier weighting in each designation of airspace.

